

MINUTES OF THE JUNE 1998 FIRE SAFETY COMMITTEE MEETING

DOE Fire Safety Committee Members

The purpose of this memorandum is to transmit the "minutes" of the Department of Energy (DOE) Fire Safety Committee meeting, which was held in conjunction with the DOE/Contractor Fire Safety Workshop on Tuesday, June 9, 1998, in Idaho Falls.

Attachment 1 contains the minutes. Attachment 2 is a draft list of fire protection and emergency response "performance measures." Enough of you had indicated that you had not received the original list, which was attached to the minutes of the December, 1997, Committee meeting, that it seems prudent to go through another review cycle. (The minutes were distributed electronically on February 7, 1998, and by written memorandum dated February 13, 1998.) I would like your comments on the draft by COB Friday, August 28, 1998. Note that the recently issued Secretarial Memorandum on Fire Safety directs the implementation of "accurate fire safety performance measures." It is my intention to issue a memorandum from the Headquarter's Office of Environment, Safety and Health to the Field suggesting the implementation of at least this set of measures to help assure consistent fire protection program performance measurements across the Department.

Under separate cover, I will be sending you a "final" draft of the pending fire protection system inspection, testing and maintenance guidelines for review and comment. I expect to have this ready for distribution by mid-September.

Finally, there are preliminary plans to hold the Fall meeting of the Committee in New Orleans. The most likely time frame is the week of December 7th. This would be a combined meeting with the "Savings Through Sharing" Working Group and Fire Chief's Subcommittee. I'm soliciting agenda topics. If you have any thoughts give me a call. I'm also asking for nominees for the 1999 Walter W. Maybee Award. (This could be an individual, group or program activity.) The selection of the winner would occur at this meeting for presentation at the Spring Conference. Additional details on the meeting will be forthcoming.

If you have any questions, please contact me on 301-903-4794

Dennis Kubicki, Chairman  
DOE Fire Safety Committee

cc.

J. Bisker, EH-51

P. Finn, EH-51

H. Pettengill, EH-51  
J. Fitzgerald, EH-5

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EH-51 Reviewer:\_\_\_\_\_

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## DOE Fire Safety Committee

### Headquarter's Representatives

Dennis Kubicki, EH, Chairperson  
Carl Caves, EH

Bill Boyce, EM  
Matt Cole, ER  
Bill Froh, DP

### Operations Office Representatives

Pat Abrams, WV  
David Boyll, SR  
Craig Christenson, RL  
James Chwang, OAK  
Pat Copp, AL  
James Crum, Portsmouth Site Office  
Terry Dembrowski, WAPA  
Jim Hutton, OR  
Dennis Kirson, RFFO  
Dario Luna, NV  
Patrick Smith, ID  
Mike Saar, CH  
Jenny Tennant, FETC-MGN

### Contractor Representatives

Chuck Augustine, Bechtel Nevada  
Robert Barnes, Fermilab  
Dave Barreres, Yucca Mountain Project  
John Bavlish, PPPL  
Tom Beal, Mound  
Bill Brown, Lockheed Martin  
Howard Brown, WIPP  
Bud Bucci, Fluor-Daniel  
Joe Galaska, Kaiser Hill Co.  
Don Good, DynCorps Tri Cities  
John Sharry, LLNL  
Ken Phillips, LMITCO  
  
Gordon Veerman, ANL-East  
Mike Vitacco, WSRC

### Headquarter's Alternates

Jim Bisker, EH  
Leo Derderian, EH

### Operations Office Alternates

### Contractor Alternates

Jim Priest, Fermilab  
  
Robert Atchley, Lockheed Martin  
  
John Bell, Fluor-Daniel  
  
Jim Roesler, BNL  
Manuel Sifuentes, LMITCO  
Don Whittacker, LMITCO

Department of Energy DOE Fire Safety Committee  
Minutes of the June 9, 1998, Meeting  
Written by: Dennis Kubicki, Chairman

The meeting was held at the Shilo Inn in Idaho Falls, Idaho in conjunction with the DOE/Contractor Fire Safety Workshop. The list of attendees will be included with the Workshop Proceedings, which is anticipated to be distributed in early August. The topics discussed were as follows.

Fire Protection System Inspection, Testing and Maintenance (IT&M) Programs

Leo Derderian (DOE-HQ-EH-43) reviewed the history of this issue, including the revised fire protection system IT&M programs at Oak Ridge, INEEL, and Hanford. He also described his efforts, since the last Committee meeting in Las Vegas, to craft a guidance package that would be distributed to the Field from Headquarters which would sanction and encourage other sites to implement the same or similar revisions to their fire protection system IT&M programs. A draft guidance document has been prepared which, in matrix form, provides information on NFPA required IT&M frequencies in relation to those adopted at the above sites. The document includes rationale, similar to that provided in the May 7, 1995, Implementation Guide for NFPA Standard 25, to help justify this approach elsewhere. Leo indicated that only a limited number of Committee members provided comments on the draft.

Jim Bisker offered the view that any guidance document issued should encourage the adoption of a single set of revised frequencies to avoid inconsistent programs across the Department. This view was countered by others with the view that as long as the individual programs achieved satisfactory system performance and other tangible benefits, such as cost reductions, consistency was not necessary.

David Barreres pointed out that the consistency issue had already been thoroughly discussed and resolved in a previous Committee meeting. He also noted that the draft matrix was supposed to include the recommended frequencies from the March 7, 1995 Implementation Guide to NFPA 25 that was originally drafted by Matt Cole and his subcommittee.

By prior agreement between Leo and Dennis Kubicki, future changes to the draft will be Dennis' responsibility. Dennis committed to complete the matrix as per the above and distribute a "final" transmittal package for Committee review and comment.

Seismic Design Criteria

Bill Boyce (DOE-HQ-EM-4) reviewed the history of attempts by the DOE seismic and fire safety communities to reach consensus on a consistent approach to certain design aspects of fire protection systems. He also discussed the evolution of NFPA 13 seismic design requirements for sprinkler systems. The principle outstanding unresolved issue between the communities concerns the design of sprinkler systems that are considered "safety significant."

Currently, DOE-STD-1066-97, "Fire Protection Design Criteria," features two explicit

references to seismic design. Paragraph 5.3.4, which applies to all fire protection features, requires that fire protection systems be designed to withstand seismic events when required by the Safety Analysis Report. It also directs conformance with other (seismic) DOE requirements, such as those promulgated by the DOE seismic community and those found elsewhere in the Standard. Paragraph 7.3, which applies only to sprinkler systems, features supplementary seismic design requirements only for sprinkler systems considered to be "safety class."

Some representatives of the DOE seismic community feel that Paragraph 7.3 should be expanded to include the requirements for sprinkler systems considered "safety significant." In several meetings over the past year between DOE seismic and fire protection representatives, it was agreed that the following "page change" to 1066 would be developed and submitted for review and approval:

Under Paragraph 7.3.1:

"In addition to the seismic requirements delineated in NFPA 13, the following criteria should apply in the design of sprinkler systems that are designated "safety class" or "safety significant" in the authorization basis per the definitions in DOE-STD-3009-94 (or current equivalent) because they must remain functional during or after an earthquake to mitigate significant nuclear or chemical hazards. These requirements (or shielding/drainage) may also be applicable to sprinkler systems designated safety class or safety significant because failure or spurious activation during an earthquake could prevent proper functioning of other safety class or safety significant systems."

There was discussion concerning the impact of such a change. Bill encouraged all present to submit comments at the appropriate time that this page change is cycled for review. Dennis Kubicki committed to advise the group when the page change was issued. (Later this Fall.)

Bill also discussed some additional editorial changes to Section 7.3 to reflect recent revisions to NFPA 13.

#### HEPA Filter Issues

Bill Boyce discussed the recent Defense Board interest in HEPA filter degradation resulting from water impingement, with emphasis on concerns for flow testing of deluge systems. He proposed an additional page change for the Appendix of DOE-STD-1066-97 that would clarify certain testing and maintenance issues.

#### Fire Safety Performance Measures

Dennis Kubicki (DOE-HQ-EH-51) reviewed the revised draft fire safety performance measures that were developed by the Committee during its December, 1997, meeting. The revision reflected comments received in March and April, 1998. After some discussion, in which a number of Committee members expressed concern over the adequacy of the draft, it was decided that an additional cycle of review and comment was appropriate. The revised draft has been provided as an attachment to these minutes.

## **Fire Protection Program Performance Measures**

### Emergency Services

- The site has access to a fleet of mobile emergency services apparatus that is capable of responding effectively and in a timely manner to all credible anticipated site emergencies as determined by the Operational Basis Document (OBD) (a.k.a. "Baseline Needs Assessment"). NOTE: This capability can be achieved through "mutual aid" agreements.
- The emergency services organization satisfies staffing levels as defined by the OBD.
- Emergency services personnel meet or exceed required minimum qualifications and training as defined by the OBD. NOTE: This includes Federal, state and local requirements.
- Fire department (brigade) pre-plans and program documents are complete and current.
- The local emergency communications capability meets or exceeds industry standards.
- Emergency services equipment has been provided as per the OBD and is maintained in accordance with industry standards.
- Fire department (brigade) operational statistics (e.g. number and type of emergency and non-emergency responses, training hours, training breakdown by type, number of emergency drills, number of fire prevention inspections, quantification of maintenance activities, etc.) are accurate and current.

### Fire Protection System

- Fire protection systems (including fire barriers) are inspected, tested, and maintained in accordance with the established site program.
- Fire alarm activation statistics (number of alarms and cause) are current and accurate.
- Fire protection system failure rates (see system operability requirements) have not exceeded 10% of the historic norm.
- For each type of fire protection system, maintenance costs have not exceeded 10% of the historic norm.
- Maintenance technicians meet or exceed industry qualifications and training requirements.

### Fire Protection Engineering

- Fire protection program documents are comprehensive (as compared to the DOE "model program") and current (updated every 3 years).
- Fire Hazards Analyses/Fire protection assessment reports are complete (as compared to the DOE "model") and current (refer to the risk based schedule in the fire protection program Implementation Guide to DOE Orders 420.1 and 440.1).
- Inventories (new, closed, open, delinquent) of fire protection and emergency services audit findings are decreasing.
- The qualifications and training of the fire protection engineering staff meet or exceed the site (or organization) work load analysis.

#### Fire-Related Losses

- Loss rates (as defined in DOE Order 231.1) are stable or declining. If an increase has occurred from the previous year's loss rate, the increase does not exceed \_\_\_\_%.  
(Determined by the DOE AHJ to reflect site specific loss histories.)

#### Costs

- Recurring fire protection program costs per \$100 of assessed value are stable (have not exceeded 10% of the historic norm).